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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/706,437

11/12/2003

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IP-023587

7149

1726 7590 04/08/2008
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EXAMINER

PATTERSON, MARC A

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

04/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

ADVISORY ACTION

ANSWERS TO APPLICANT'S AMENDMENTS

Claim Rejections – 35 USC § 103(a)

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 - 3, 6, 9 - 12 and 23 - 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiang (U. S. Patent No. 5,370,941) in view of Friedman (U. S. Patent No. 5,534,593) and Akki et al CO. S. Patent Publication No. 2001/0007005 A1) and Japanese Patent No. 03191002.

With regard to Claims 1 - 2, Kiang discloses a laminate (multilayer structure; column 7, lines 20 - 21) useful in the manufacture of containers for food products (column 7, lines 17 - 18) comprising a paperboard substrate (a coextrusion is applied to paperboard; column 7, lines 7 - 8) and a food contact release layer comprising polymethylpentene homopolymer (exterior PMP layer exhibits superior food release, therefore a food contact layer; column 7, lines 15 - 19) bonded to one side of the substrate (column 7, lines 20 - 27), the laminate being ovenable (column 7, lines 15 - 19). Kiang discloses a grease resistant layer, because Kiang discloses ethylene vinyl alcohol as a barrier layer, therefore a barrier to grease (column 7, lines 8 - 12), and a tie layer disposed between the grease resistant layer and the food contact layer (column 7, lines 13 - 15). Kiang fails to disclose a food contact release layer comprising 50% to 75% by weight polymethylpentene homopolymer and 25% to 50% by weight polypropylene homopolymer.

Friedman teaches a polymer comprising 50% to 75% by weight polymethylpentene homopolymer and 25% to 50% by weight polypropylene homopolymer (column 2, lines 31 - 40) as a release film (column 1, lines 10 - 15) for the purpose of improving the tensile strength as compared to polymethylpentene homopolymer (column 1, lines 35 - 45). One of ordinary skill in the art would therefore have recognized the advantage of providing for the addition of the polypropylene homopolymer of Friedman to Kiang et al, which comprises polymethylpentene homopolymer, depending on the desired impact resistance of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for a food contact release layer comprising 50% to 75% by weight polymethylpentene homopolymer and 25% to 50% by weight polypropylene homopolymer in Kiang et al in order to obtain improved impact resistance as taught by Friedman. The food contact release layer would therefore be a blend of polymethylpentene homopolymer and polypropylene homopolymer. Kiang does not disclose that the blend of polymethylpentene homopolymer and polypropylene homopolymer exhibits greater softening and melting points than the softening and melting points of polypropylene homopolymer, but Akki et al disclose that polymethylpentene has a greater melting point than polypropylene (paragraph 0017) and Japanese Patent No. 03191002 discloses that polymethylpentene has a greater softening point than polypropylene (English Abstract - Basic Abstract). The blend of polymethylpentene and polypropylene would therefore exhibit greater softening and melting points than the softening and melting points of polypropylene.

With regard to Claim 3 and 9 - 10, the food contact release layer comprises polymethylpentene, which has a surface tension of 24 dynes/cm, and polypropylene, which has a

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surface tension of 29 dynes/cm, and therefore exhibits a surface tension of between 24 and 29 dynes/cm, which is less than 75% of the starch, thus food products are baked when disposed in the container; however, the claimed aspect of the baking of food products in the container is given little patentable weight, as it is directed to an intended use of the claimed invention rather than a structural limitation.

With regard to Claim 6, a tie layer is interposed between the paperboard substrate and the food contact release layer (column 7, lines 20 - 21).

With regard to Claim 11, Kiang discloses a grease resistant layer, because Kiang discloses ethylene vinyl alcohol as a barrier layer, therefore a barrier to grease (column 7, lines 8 -12).

With regard to Claim 12, the food contact release layer is extruded onto the paperboard substrate (column 7, lines 7 - 10).

With regard to Claims 23 - 25, Kiang fails to disclose a softening point and melting point equal to 400 degrees Fahrenheit. However, Kiang teaches that the amount of the components is selected depending on the desired melt flow rate (column 6, lines 39 - 46). Therefore, one of ordinary skill in the art would have recognized the utility of varying the amounts of the blend to obtain the desired melt flow rate. Therefore, the melt flow rate would be readily determined by through routine optimization of the amounts of the blend by one having ordinary skill in the art depending on the desired use of the end product as taught by Kiang.

It therefore would be obvious for one of ordinary skill in the art to vary the amounts, therefore the softening point and melting point, in order to obtain the desired melt flow rate,

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since the melt flow rate would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Kiang.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiang (U.S. Patent No. 5,370,941) in view of Friedman (U.S. Patent No. 5,534,593) and Akki et al (U.S. Patent Publication No. 2001/0007005 A1) and Japanese Patent No. 03191002 and further in view of Lorence (U.S. Patent No. 5,818,016).

Kiang, Friedman, Akki et al and Japanese Patent No. 03191002 discloses a laminate comprising paperboard, having a food contact layer as discussed above. Kiang, Friedman, Akki et al and Japanese Patent No. 03191002 fail to disclose a laminate having a basis weight of between 3 and 10 lbs/3000 ft² Lorence et al teaches a food contact layer (food contacting surface; column 4, lines 38 - 40) for a paperboard (paper - based substrate; column 3, lines 33 - 35) having a basis weight of between 3 and 10 lbs/3000 ft² (between 0.1 and 5/3000 ft²; column 4, lines 11 - 12) for the purpose of obtaining a food contact layer that can optionally be coated on both sides (column 4, lines 32 - 33). One of ordinary skill in the art would therefore have recognized the advantage of providing for the basis weight of Lorence et al in Kiang, Friedman, Akki et al and Japanese Patent No. 03191002, which is a paperboard having a food contact layer, depending on the desired coating of the end product.

It would therefore have been obvious for one of ordinary skill in the art to have provided for a basis weight of between 3 and 10 lbs/3000 ft² in order to obtain a food contact layer that can optionally be coated on both sides as taught by Lorence et al.

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4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiang (U.S. Patent No. 5,370,941) in view of Friedman (U.S. Patent No. 5,534,593) and Akki et al (U.S. Patent Publication No. 2001/0007005 A1) and Japanese Patent No. 03191002 and further in view of Shanton (U.S. Patent No. 6,066,375).

Kiang, Friedman, Akki et al and Japanese Patent No. 03191002 disclose a laminate comprising paperboard as discussed above Kiang, Friedman, Akki et al and Japanese Patent No. 03191002 fail to disclose paperboard having a basis weight between 18 and 320 lbs./3000 ft².

Shanton teaches a paperboard laminate (paperboard and coatings; column 2, lines 24 - 61) having a paperboard with a basis weight of between 18 and 320 lbs./3000 ft² (100 to 400 lbs/3000 ft²; column 2, lines 62 - 65) for the purpose of obtaining a laminate preferred for microwave cooking (column 3, lines 40 - 43). One of ordinary skill in the art would therefore have recognized the advantage of providing for the basis weight of Shanton in Kiang, Friedman, Akki et al and. Japanese Patent No. 03191002 depending on the desired microwave use of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for a basis weight between 18 and 320 lbs./3000 ft² in order to obtain a laminate preferred for microwave cooking as taught by Shanton.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiang (U.S. Patent No. 5,370,941) in view of Friedman (U.S. Patent No. 5,534,593) and Akki et al (U.S. Patent Publication No. 2001/0007005 A 1) and Japanese Patent No. 03191002 and further in view of Bissot (U.S. Patent No. 4,818,782).

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Kiang, Friedman, Akki et al and Japanese Patent No. 03191002 disclose a paperboard laminate having a tie layer between a grease resistant layer comprising ethylene vinyl alcohol and a food contact layer, therefore between a paperboard layer and food contact layer, as discussed above. The tie layer comprises a blend of ethylene alkyl acrylate and polypropylene which is modified (column 2, lines 67 - 68; column 3, lines 1 - 2) with a carboxylic acid derivative (column 3, lines 64 - 68). Kiang, Friedman, Akki et al and Japanese Patent No. 03191002 fail to disclose a tie layer comprising low density polyethylene modified with methacrylic acid.

Bissot teaches that low density polyethylene modified with methacrylic acid is used interchangeably with other modified polyolefins (column 6, lines 35 - 43) as an adhesive between ethylene vinyl alcohol and another layer (column 6, lines 20 - 24) for the purpose of obtaining good adhesion to both layers (column 6, lines 20 -24). One of ordinary skill in the art would therefore have recognized the advantage of providing for the adhesive of Bissot in Kiang, Friedman, Akki et al and Japanese Patent No. 03191002, which comprises an adhesive between ethylene vinyl alcohol and another polymer, depending on the desired adhesion to both layers of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for a tie layer comprising low density polyethylene modified with methacrylic acid in Kiang, Friedman, Akki et al and Japanese Patent No. 03191002 in order to obtain good adhesion to both layers as taught by Bissot.

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6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiang (U.S. Patent No. 5,370,941) in view of Friedman (U.S. Patent No. 5,534,593) and Akki et al (U.S. Patent Publication No. 2001/0007005 A1) and Japanese Patent No. 03191002 and further in view of Adur (U.S. Patent No. 5,942,295).

Kiang, Friedman, Akki et al and Japanese Patent No. 03191002 disclose a paperboard laminate comprising a tie layer as discussed above. With regard to Claims 4 and 8, Kiang, Friedman, Akki et al and Japanese Patent No. 03191002 fail to disclose a tie layer having a coat weight of between 1 and 25 lbs/3000 ft².

Adur et al teach a tie layer having a coat weight of 1 lb/3000 ft² (column 2, lines 1 - 12) in a paperboard laminate, for the purpose of obtaining a laminate that can be converted into many different types of packages (column 2, lines 35 - 37). One of ordinary skill in the art would therefore have recognized the advantage of providing for the weight of Adur in Kiang, Friedman, Akki et al and Japanese Patent No. 03191002, which comprises a paperboard laminate comprising a tie layer, depending on the desired conversion to different types of products of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for a tie layer having a coat weight of between 1 and 25 lbs/3000 ft² in Kiang, Friedman, Akki et al and Japanese Patent No. 03191002 in order to obtain a laminate that can be converted into many different types of packages as taught by Adur et al.

ANSWERS TO APPLICANT'S ARGUMENTS

7. Applicant's arguments regarding the rejections of the previous Action have been carefully considered but have not been found to be persuasive for the reasons set forth below.

Applicant argues, on page 6 of the remarks dated March 7, 2008, that Friedman teaches a single layer film, and that it therefore would not have been obvious for one of ordinary skill in the art to have provided for the polymer of Friedman in Kiang.

However, as stated above, Kiang and Friedman both disclose containers, and films comprising polymethylpentene. It therefore would have been obvious to have provided for the polymer of Friedman in one of the layers of Kiang, for the purpose of improving the tensile strength, although Friedman teaches a single layer film.

Applicant also argues, on page 8, that if phase separation does not occur in a blend of two homopolymers desired stiffness and release properties will not be obtained.

However, as stated above, a blend of two homopolymers, therefore phase separation, would have been obvious in view of Friedman.

Applicant also argues, on page 9, that Akki et al do not disclose the unexpected results of the claimed invention and that Japanese Patent No. 03191002.

However, as stated above, the claimed melting point and softening points are taught Kiang and Friedman, as taught by Akki et al and Japanese Patent No. 03191002.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc A Patterson whose telephone number is 571-272-1497.

The examiner can normally be reached on Mon - Fri 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Marc A Patterson/
Primary Examiner, Art Unit 1794